Section 1: PURPOSE AND NEED

1.1 PROJECT HISTORY

The North-South Expressway in Caddo Parish, Louisiana, was first studied in 1988 as part of a multi-state effort led by Arkansas to consider an Interstate facility between Shreveport, Louisiana and Kansas City, Missouri. In 1995, the Louisiana Department of Transportation and Development (DOTD) completed a Corridor Feasibility Study (hereafter referred to as the Feasibility Study) for the North-South Expressway that formed the basis for Environmental Impact Statement efforts initiated in August 1997. The following summarizes the legislation and studies that support the current development of the North-South Expressway project.

In 1988, the Arkansas State Highway and Transportation Department (AHTD) led a multi-state study for an Interstate corridor paralleling U.S. 71. This study was prepared in response to Section 166 of the Federal Highway Act of 1987. The purpose of the study was to determine the economic feasibility of a fully controlled access highway designed to Interstate standards. The study found several positive benefits that would be realized from construction of such a facility. The corridor would connect major employment centers of the region, thirteen major commercial areas, thirteen Department of Defense installations and would improve highway capacity and highway safety in the region. From an economic development perspective, the Interstate corridor would foster further growth of the tourism and recreation industries of the region and would be a major consideration in attracting new commercial and industrial activities to the region. The travel time savings that would be realized for the entire corridor would be three hours, from eleven hours on the existing route to eight hours on the proposed highway.

Specifically within the state of Louisiana, the 1988 study examined a predominantly rural area paralleling U.S. 71 that extended from Interstate 220 north to the Arkansas state line, a distance of approximately 56 kilometers (35 miles). The Interstate 220 connection will furnish access to Interstate 20 providing east-west travel to Dallas-Fort Worth, Texas and Jackson, Mississippi. Interstate 20 also provides access to Interstate 10 some 330 kilometers (207 miles) to the south at Lafayette, Louisiana via Interstate 49. This study found that the overall movement of people and goods within the corridor would be greatly improved and would provide considerable benefits to motorist safety. Controlled access Interstates in rural areas in Louisiana exhibit much lower accident rates than rural two-lane highways (1.39 vs. 0.44 accidents per million vehicle miles). Benefits to existing air, rail, waterways, and

highway transportation modes would be realized through improved access, improved safety, and reduced travel time. The study also concluded that environmental impacts, including air and noise pollution, would be minimal.

Following the 1988 multi-state study, Congress enacted the Intermodal Surface Transportation Efficiency Act (ISTEA, 1991) which provided funding to further develop the corridor within Louisiana. ISTEA had several key components, one of which was the establishment of the National Highway System (NHS). This system was further defined in the 1995 National Highway System Designation Act. The NHS is a system of Interstate and principal arterial roadways that would serve the travel, commercial, national defense, and economic development needs of the country. The roadways contained in the NHS are both existing and planned highways, as recommended by each state highway agency.

Some of the NHS roadways planned for construction were further identified as High Priority Corridors of national significance (NHS, 1995). Congress found that many regions of the nation are not adequately served by the existing Interstate Highway System or other comparable highways. These regions require additional highway development in order to serve their travel and economic development needs.

Twenty-one corridors were identified in ISTEA as High Priority. The Shreveport, Louisiana to Kansas City, Missouri HPC along existing U.S. 71 is over 800 kilometers (500 miles) in length and is one of the longest corridors identified. The North-South Expressway project from Interstate 220 to the Arkansas state line forms the most southerly segment of the Shreveport to Kansas City corridor.

In 1995, the Louisiana Department of Transportation and Development (DOTD) completed a Feasibility Study for the North-South Expressway. This study included a comprehensive traffic analysis, an examination of existing environmental information, and public information meetings. Several 600 meter (2,000 feet) wide highway corridors were developed within Caddo Parish. Following this study, on April 22, 1996, a Notice of Intent to prepare this Environmental Impact Statement (EIS) was published in the Federal Register (Volume 61, Number 78) and in August 1997 DOTD initiated studies to prepare the EIS. This EIS uses the previously developed corridors as a basis for more detailed environmental and engineering studies to ultimately identify the location for the North-South Expressway.

At the Louisiana/Arkansas state line, it is necessary to coordinate with the AHTD as they have completed the Final EIS and obtained a Record of Decision on the U.S. 71 Texarkana, Arkansas to the Louisiana state line project. To

allow flexibility with the exact state line crossing location, the Final EIS states that the southern section, approximately 6.4 kilometers (4 miles) of the preferred alternative between Doddridge, Arkansas and the Arkansas-Louisiana state line, would be constructed after the completion of the Louisiana study. Engineering design is currently being conducted in other portions of this project. To facilitate communication between the two states, AHTD is participating as a cooperating agency in this EIS.

1.2 PROJECT DESCRIPTION

The North-South Expressway is a proposed four-lane, divided, fully controlled access highway on new location approximately 56 kilometers (35 miles) in length in Caddo Parish, Louisiana. The project study area is shown in Exhibit 1-1. The northern terminus of this project will be at the Arkansas state line. This location was determined by the AHTD Final EIS highway location decision from Texarkana, Arkansas to the Louisiana state line. The southern terminus will connect to Interstate 220 in Shreveport between the existing interchanges of Interstate 220 with LA 173 and LA 1/U.S. 71. The design standards used for Interstates specify divided travel lanes with a preferred median of 27 meters (90 feet) and a design speed of 120 kmh (70 mph). The design criteria for the North-South Expressway are presented in Table 1-1.

Table 1-1
DESIGN CRITERIA

ITEM	VALUE	
Design Speed	120 kmh (70 mph)	
Median Width	27 m (90 ft)	
	Maximum	Preferred
Profile Grade	3%	2%
Degree of Curve	3°	2°

Source: Michael Baker Jr., Inc.; DOTD; American Association of State Highway and Transportation Officials

Traffic studies conducted during the 1995 Feasibility Study determined that carrying traffic on I-220 west and then south on the inner loop (LA 3132) is viable without having to provide a direct connection from I-220 to the junction of I-49 and I-20. If the I-220 to I-20 connection were to be considered in the future, a separate environmental analysis and document would be developed.

Access to the North-South Expressway would be limited to on and off ramps at proposed interchange locations. A number of state highways crossed by the proposed facility would have interchange access and include LA 1, LA 169, LA 170, LA 530, LA 2, LA 769, and LA 168. Access has also been proposed at U.S. 71 near Hosston and at Martin Luther King, Jr. Drive in Shreveport.

The number of lanes provided is dictated by providing a capacity that yields an acceptable level of service (LOS) to the public. A traffic analysis described later in this section has determined that the North-South Expressway would require two lanes in each direction. Some basic geometric

features for the highway are presented in Exhibit 1-2.

A welcome center and joint DOTD/AHTD weigh station would likely be developed in conjunction with this project. The location of these facilities would be determined during the final design of the highway.

1.3 PROJECT PURPOSE

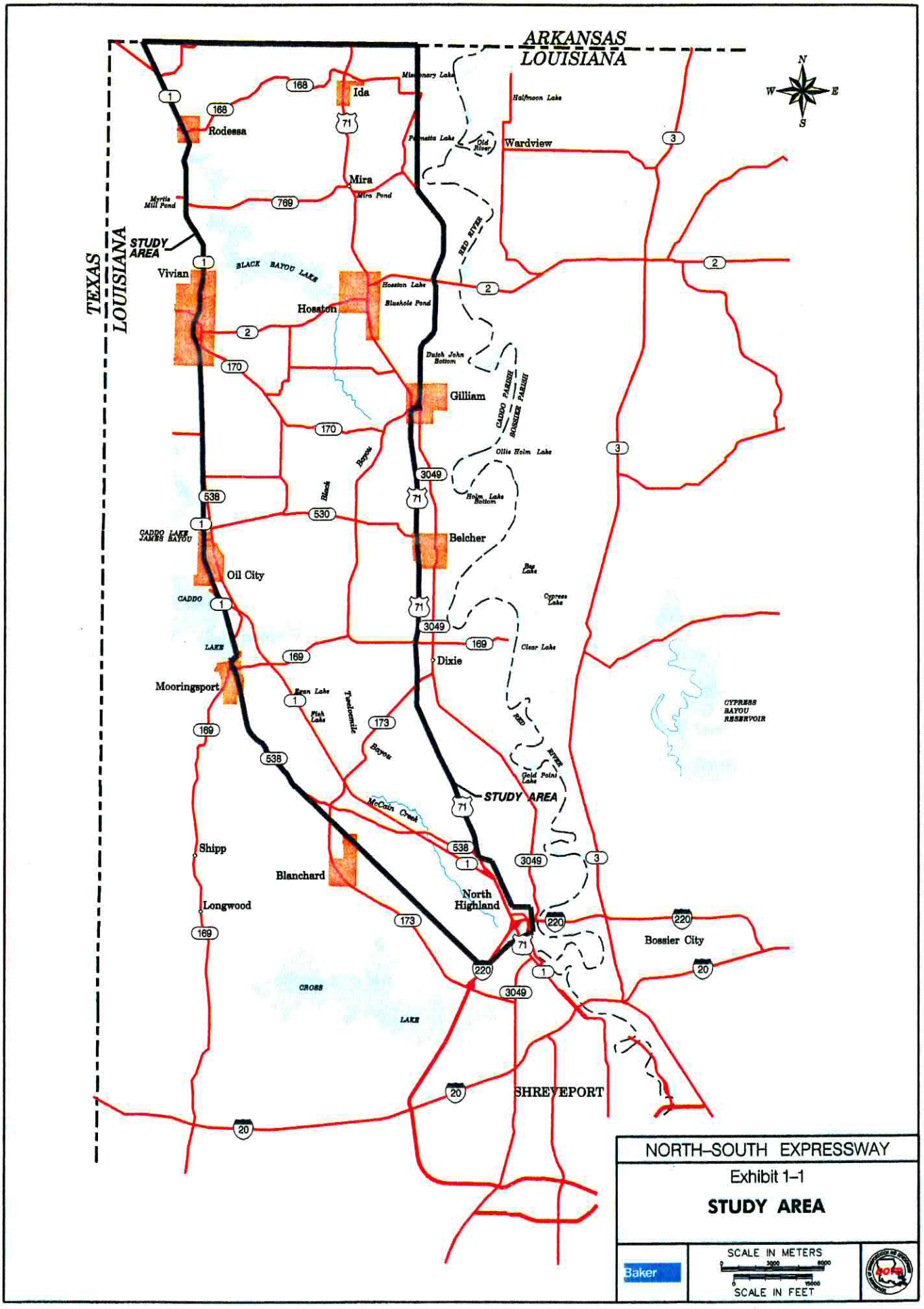
The purpose of the North-South Expressway project is stated in ISTEA, "The development of transportation corridors is the most efficient and effective way of integrating (inadequately served) regions and improving efficiency and safety of commerce and travel and further promoting economic development." State highway agencies have the authority to prepare long range plans and feasibility studies for these corridors. The High Priority designation allows the states administering these projects to give priority to funding construction of highways within these corridors.

Other legislation that is related to this project, although indirectly, is the North American Free Trade Agreement (NAFTA), enacted in January 1994. Import and export operations that result from this agreement are expected to generate additional freight flow between Mexico, the United States and Canada along several trade corridors. By the year 2000, U.S. exports to Mexico are projected to increase 65 to 70% (USDOT, 1994). Ultimately, north-south traffic demand is expected to increase, and will be accommodated in part by the proposed highway.

A "NAFTA Highway" corridor is currently being studied that would further link Mexico to the United States and Canada. The Interstate 69 Corridor would connect Indianapolis, Indiana with Houston, Texas and would facilitate trade between the United States, Mexico and other South American markets. The Interstate 69 corridor, as currently proposed, would pass through the Shreveport area and would connect to Interstates 49 and 20 making the North-South Expressway a vital link in the movement of goods from Mexico north to the Midwest.

Coordination with local elected officials in the study area identified several locally based purposes for the project. These include:

- Attraction of new businesses to rural Caddo Parish communities such as Vivian, Gilliam and Hosston within the study area
- Improve access to medical facilities and other social services
- Relieve congestion on existing north-south routes
- Improve safety through diversion of truck traffic from local roads.



NORTH–SOUTH EXPRESSWAY

Exhibit 1–1

STUDY AREA

Baker

SCALE IN METERS

SCALE IN FEET

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1.4 TRANSPORTATION NEED

With the legislative purpose as a framework, the transportation need for the North-South Expressway project was analyzed. This was undertaken to identify other needs or deficiencies of existing U.S. 71 and other Louisiana highways in North Caddo Parish that could be accommodated or resolved by the proposed highway. This analysis considered the transportation needs of these highways and the social and economic needs of the communities through which they pass.

1.4.1 Interstate System Linkage

The current Interstate system through the south central United States is missing a critical link (Exhibit 1-3). The Interstate Highway System was developed to connect geographic areas. Major cities are joined together, accommodating both commercial and recreational trips. Within the region shown, there are numerous Interstates available for east-west travel:

- I-10 between San Antonio, Texas and New Orleans, Louisiana
- I-20 between Dallas-Fort Worth, Texas and Jackson, Mississippi
- I-30 / I-40 between Dallas-Fort Worth, Texas and Memphis, Tennessee
- I-40 between Oklahoma City, Oklahoma and Memphis, Tennessee
- I-70 between Denver, Colorado and St. Louis, Missouri.

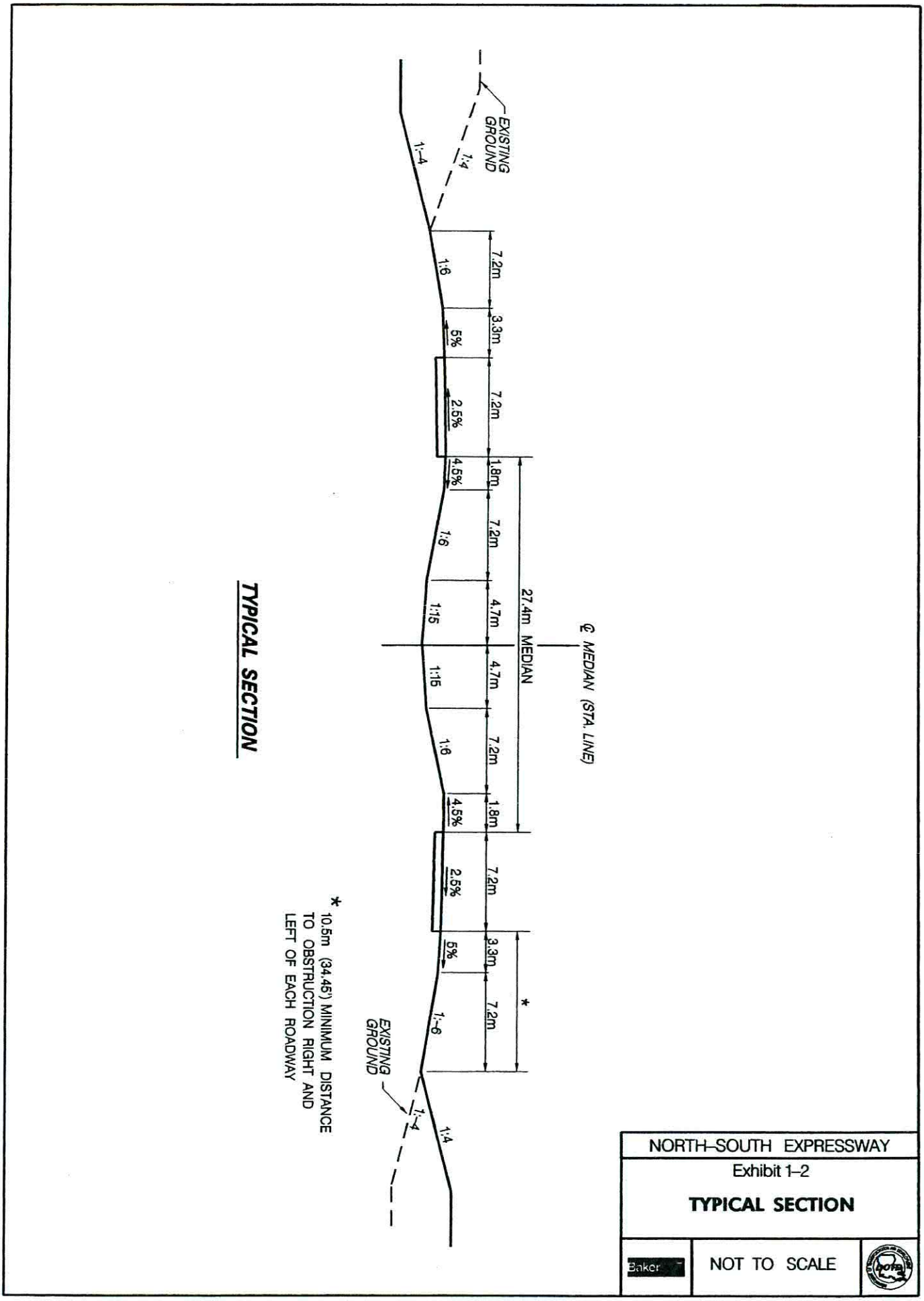
However, there are only two complete north-south Interstates in this area:

- I-35 between San Antonio, Texas and I-70 in Kansas
- I-55 from New Orleans, Louisiana to St. Louis, Missouri.

Between I-35 and I-55, I-49 runs from I-10 at Lafayette, Louisiana to I-20 in Shreveport, Louisiana, but does not continue north. Completion of the High Priority Corridor from Shreveport to Kansas City would provide a facility nearly equidistant from I-35 and I-55, which on average are located 640 kilometers (400 miles) apart. Currently, I-49 travelers either remain on the Interstate Highway System by traveling to the east or west on I-20 to reach I-35 or I-55, or leave the Interstate Highway System and continue north on U.S. 71, an undivided, primarily two-lane rural highway.

1.4.2 Traffic Analysis

An analysis of existing and future traffic conditions within the study area was conducted in the Feasibility Study. More specifically, this study evaluated the existing traffic in the study area, estimated future (years 2005 and 2020) traffic volumes on area highways, and evaluated the traffic impacts associated with the North-South Expressway on the area transportation system.



TYPICAL SECTION

* 10.5m (34.45') MINIMUM DISTANCE TO OBSTRUCTION RIGHT AND LEFT OF EACH ROADWAY

NORTH–SOUTH EXPRESSWAY

Exhibit 1–2

TYPICAL SECTION

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NOT TO SCALE

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Traffic conditions on area roadways (see Exhibit 1-1) were evaluated through field observations and capacity analysis. Capacity analysis is a tool used to measure the quality of service provided by a roadway. The capacity analysis yields a level of service (LOS) that qualitatively measures the operational characteristics of a roadway and is given letter designations A through F.

Level of Service A (free flow) represents the highest quality of service while LOS F (heavy congestion or traffic breakdown conditions) is the worst. Level of service incorporates factors that are both measurable and immeasurable to describe the quality of service that a facility provides or will provide. Some of the measurable factors include speed, travel time, average annual daily traffic volumes (AADT) and the percent of trucks using the highway, operating costs, traffic density, and traffic interruptions. Examples of immeasurable factors would be driver comfort level, convenience, safety, and perception of quality. Complete definitions of the LOS ratings are provided in the Appendix.

As part of the Feasibility Study, traffic counts were taken in 1994 to supplement available 1993 traffic volumes. These counts formed the basis for the traffic forecast. Growth factors calculated from historical growth trends were applied to the traffic volumes to determine 1995 volumes and to predict design year 2020 volumes. The level of service of various existing roadways under current and future conditions is presented in Table 1-2. Existing roadway sections operating below level of service C are shaded for illustrative purposes. Level of Service C is considered acceptable in rural areas, while LOS D is the acceptable limit in most urban areas.

Table 1-2
LEVELS OF SERVICE ON EXISTING ROADWAYS

Roadway	FROM:	TO:	1995 Existing LOS	2020 No-Action LOS	2020 Design Year LOS
LA 1	Arkansas State Line	LA 2	C or better	D	C or better
	LA 2	LA 169	C or better	E	D
	LA 169	LA 538	D	E	D/E
	LA 538	US 71 / LA 1	C or better	E	C or better
US 71	Arkansas State Line	US 71 / LA 1 Split	C or better	E	C or better
US 71 / LA 1	US 71 / LA 1 Split	LA 3194	C or better	F	D
	LA 3194	I-220	E	F	D
LA 3	Arkansas State Line	LA 2	C or better	D	C or better
	LA 2	LA 162	C or better	E	D
LA 173	LA 3194	I-220	C or better	E	C or better
LA 538	LA 1	I-220	C or better	D	D
LA 2	US 71	LA 3	C or better	D	D

Source: 1995 Feasibility Study prepared by DOTD

NORTH–SOUTH EXPRESSWAY

Exhibit 1–3

INTERSTATE SYSTEM LINKAGE

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SCALE AS SHOWN

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1.4.3 The Roadway Network and Social Services

Providing safe, efficient access to surrounding communities is an important role of a transportation facility. The ability of the local transportation system to provide safe, efficient access to hospitals, schools, government offices, and retail stores as well as movement between communities can influence the quality of life for people living in rural areas. U.S. 71 currently functions as the main north-south link between the rural communities of Ida, Hosston, Gilliam, and Belcher and the many services available within the Shreveport metropolitan area.

Adequate fire and police services are important for the protection of citizens and property in all communities. Within the rural communities of the study area, three fire districts provide fire protection. Police protection is provided by community police departments and the Caddo Parish Sheriff's department. Many of these law enforcement and fire personnel rely on LA 1, U.S. 71, LA 3, LA 173, LA 538, and LA 2 to protect local communities. These communities are dependent on a roadway system that is not expected to provide an adequate level of service by year 2020. Future capacity predictions show that highways will be operating at a reduced level of service, resulting in congestion, reduced speeds and unstable traffic flows.

Construction of the North-South Expressway would benefit study area residents by reducing emergency response times between communities and by removing through traffic from the local roadway network.

1.4.4 Economic / Employment Demands

The historical economic base of the study area has been primarily tied to agriculture, timber production, and oil and gas production. The Shreveport area economic base has diversified with a variety of major employment facilities. The Shreveport Chamber of Commerce lists 271 manufacturing firms within the Caddo Parish study area that employ thousands of people in northwest Louisiana, northeast Texas, and southwest Arkansas. These manufacturing firms include General Motors Corporation, Lucent Technologies, Libbey Glass, Beaird Industries, Frymaster Corporation, General Electric, G.N.B. Battery, and Quaker State.

The North-South Expressway would increase transportation efficiency for industries dependent on trucking. Transportation of either raw materials for manufacturing or the shipment and delivery of goods or services would be improved by providing a critical north / south missing connection in the Interstate Highway System. Furthermore, future capacity problems are predicted for LA 1, U.S. 71, LA 3, LA 173, LA 538, and LA 2. Construction of the North-South Expressway would benefit industries that use these highways by providing

them with an interstate facility that would avoid local traffic and local communities. Increasing transportation trucking efficiency could serve to reduce shipping and overall operating costs for manufacturing firms.

1.4.5 Intermodal Connectivity

Several modes of transportation for movement of people and commodities are available within the Shreveport metropolitan area. These facilities include airports, bus lines, rail facilities, waterways and ports. Two commercial airports are located within the Shreveport area. The Shreveport Regional Airport provides national service and links to airports with international service while the Shreveport Downtown Airport links to larger airports that provide national and international service.

Passenger bus service provides travel nationwide through the Kerrville and Greyhound Bus Lines with main stations in Shreveport.

Two major railways, Kansas City Southern and Union Pacific, serve the study area with rail yards and terminals. These rail facilities extend from Mexico City to the Midwest and West and serve as the transfer points from rail to truck for raw materials and finished products. Primary cargo transported from the facilities include completed trucks from the Shreveport General Motors plant, auto parts, chemicals, and wood products.

The Port of Shreveport-Bossier, located on the Red River, began operation in April 1997. More than 208,600 tons of cargo were moved from April through December 1997 (The Port Report, Spring 1998). In 1998, the port exceeded its first year tonnage by 58% and moved over 329,000 tons of cargo (Refer to February 12, 1999 Port letter) This port connects Shreveport to New Orleans and the Gulf Ports via the Red and Mississippi River systems. Imports and exports at the port include coal, steel, aggregate rock, industrial wastewater, and petroleum products. This facility is projected to generate substantial truck traffic as raw material and products are transferred from barges to trucks.

The study area has a variety of transportation modes on which to move people and commodities including truck, bus, rail, waterways, and airports. Any "trip" on the intermodal network involves highway usage at some point. While Interstate facilities are readily available for trips to points east, west, and south, an Interstate facility serving points north would complete the intermodal network and would provide a higher level of service for the highway portion of any northbound trip.

1.4.6 Recreation Demand

Recreation opportunities in the study area are extremely diverse and offer a variety of both indoor and outdoor activities. Caddo Lake, Cross Lake, and numerous area bayous offer year round boating and fishing opportunities. Over 60 area parks provide picnic, hiking and other outdoor

recreation. A racing facility recently began operations in 1998 that will bring the International Hot Rod Association to north Caddo Parish. Other tourist attractions in the Shreveport area include several museums, the R.W. Norton Art Gallery, the American Rose Center Gardens, amusement parks, Louisiana Downs, and casino gaming. Shreveport and Bossier City currently harbor four riverboat gaming facilities that are a major factor in the area economy.

In 1997, over 11.5 million people visited area casinos that generated over 526 million dollars in revenue and paid over 96 million dollars in taxes (Shreveport Chamber of Commerce, 1998).

Interstate facilities currently provide access from points east, west, and south, enabling residents of Texas, Mississippi, and much of Louisiana to readily access these recreation opportunities. An Interstate facility serving points north would provide a safer, more efficient highway for tourists from western Arkansas and eastern Oklahoma traveling to the Shreveport area.

1.5 SUMMARY

The North-South Expressway project has been designated as a High Priority Corridor by the 1991 ISTEA legislation. This act establishes the purpose of the project to function as a critical link in the Interstate system that will serve travel, economic development and commercial demands of the south-central United States. The 1988 multi-state feasibility study, the 1995 Corridor Feasibility Study, and the current EIS study have identified level of service, safety, social, economic, and recreational needs of the existing roadway system and study area.

Construction of the proposed highway would:

- Complete a critical link in the Interstate system
- Facilitate local, regional and national economic growth
- Provide sufficient capacity for the growing population of the study area
- Improve traffic safety and emergency response times
- Improve the connectivity of existing rail, bus, air and water transportation modes
- Improve access to medical facilities, other social services, and recreational attractions in the study area
- Improve efficiency of transportation for the trucking industries and businesses and facilities dependent on trucking
- Provide a trade corridor in support of NAFTA.